

00:21: L17: (554) 116 and 113

## Active

- L1: (53323) recombinant peptide
- L2: (584035) production
- L3: (1463284) method
- L4: (428200) 12 and 13
- L5: (36078) 14 and 11
- L6: (36078) 14 and 11
- L7: (194184) growth hormone
- L8: (197392) growth hormone or GH
- L9: (194234) growth hormone or GH
- L10: (127546) trisulfide bridge
- L11: (10954) trisulfide bridge and
- L12: (27957) ferment\$

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9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 6225341	20010501		Methods for producing members of specific bin Compounds and methods for svnthesis and thera	530/387.3			Winter, Paul
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11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 6221351	20010424		Tumor killing effects of enterotoxins, supera	424/134.1	435/69.7		Smith, C . et al.
12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 6218513	20010417		Globins containing binding domains	424/93.71	530/380		Terman, Anthony-
13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 6215007	20010410		Recombinant production	424/93.2	424/192.1		Spencer Khosla,
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 L4: (428200) 12 and 13  
 L5: (36078) 14 and 11  
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 L7: (194184) growth hormone  
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 L9: (194234) growth hormone or GH  
 L10: (127546) trisulfide bridge  
 L11: (10954) trisulfide bridge and  
 L12: (27957) ferment\$  
 L13: (644) ferment\$ and 111  
 L14: (408502) sodium phosphate

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A					; 514/21		
448 US 5071747	19911210	7	Porous polymeric support containing biological material	435/41	435/180		Hough, David et al.
A					; 435/182		
449 US 5066586	19911119	8	Process for preparation of novel angiotensin II	435/119			Chen, Shieh-S. T.
A							
450 US 5057141	19911015	30	Compositions for biological control of pathogenic microorganisms	71/28	424/195.15		Rodriquez-Kab-R.
A					; 424/175.7		
451 US 5053329	19911001	7	Process for preparation of novel angiotensin II	435/119	435/827		Chen, Shieh-S. T.
A							
452 US 5047523	19910910	11	Nucleic acid probe for detection of neisseria	536/24.32	435/177		Woods, Derek et al.
A					; 435/5		
453 US 5038852	19910813	31	Apparatus and method for performing automated pharmaceutical compositions of recombinant proteins	165/267	236/46R		Johnson, Larry et al.
A					; 422/116		
454 US 5037644	19910806	29	Pharmaceutical compositions of recombinant proteins	424/85.2	424/85.1		Shaked, Ze'ev et al.
A					; 514/12		
455 US RE33653	19910730	26	Human recombinant interleukin-2 muteins	424/85.1	424/85.2		Mark, David F et al.
E					; 424/85.6		
456 US 5017229	19910521	6	Water insoluble derivatives of hyaluronan	106/162.2	106/162.8		Burns, James et al.
A					; 106/190.		
457 US 5013713	19910507	13	Prolonged release of biologically active somatotropin	514/2	514/12		Mitchell, James
A					; 514/21		
458 US 5002876	19910326	22	Yeast production of human tumor necrosis factor	435/69.5	435/254.2		Sreekrishna, Kotikanavadan
A					; 435/254.		
459 US 5001048	19910319	13	Electrical biosensor	435/4	204/403		Taylor, Richa



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## Ubiquitin fusion technology: bioprocessing of peptides.

Pilon A, Yost P, Chase TE, Lohnas G, Burkett T, Roberts S, Bentley WE.

Proteinix Company, Gaithersburg, Maryland 20877, USA.

Ubiquitin fusion technology represents an emerging method for economically producing peptides and small proteins in the bacterium *Escherichia coli*. Our focus is on peptide production where the need for cost-effective, scaleable processes has recently been highlighted by Kelley (1996). There are two principal features: (1) the expression system consists of a suitable *E. coli* host strain paired with a plasmid that encodes the ubiquitin fusion and (2) an ubiquitin-specific protease, UCH-L3, which cleaves only C-terminal extensions from ubiquitin. In this work, multigram yields were obtained of four ubiquitin fusions derived from cell paste generated in single 10-L fermentations. All were expressed intracellularly and remained soluble at extremely high levels of expression. Bacterial freeze-thaw lysates contained over 95% pure ubiquitin fusion protein. All four fusions were efficiently cleaved to ubiquitin and the peptide products. In one case, the final yield of peptide was 1.08 g from 3 L of low cell density bacterial culture. The combination of exceptional overexpression of the ubiquitin-peptide fusion proteins and a robust and specific protease are unique advantages contributing to a cost-effective, scaleable, and generic bioprocess for peptide production.

PMID: 9265776 [PubMed - indexed for MEDLINE]

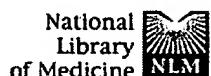
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### Production and purification of a recombinant human hsp60 epitope using the cellulose-binding domain in Escherichia coli.

Shpigel E, Elias D, Cohen IR, Shoseyov O.

The Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovot, 76100, Israel.

The heat shock protein hsp60 plays a functional role in insulin-dependent diabetes mellitus. The hsp60 epitope p277 (aa 437-aa 460) is effective in vaccinating mice against diabetes. A synthetic peptide gene (p277) that encodes the human hsp60 epitope was cloned to the 3' end of the cellulose-binding domain gene (cbd). CBD-p277 was overexpressed in Escherichia coli and purified on a cellulose column. A methionine at the C-terminal end of CBD enabled CNBr cleavage between CBD and p277. After CNBr cleavage, free CBD and residual uncleaved CBD-p277 were recovered by cellulose chromatography. The p277 peptide was further purified on a RPC-FPLC column. The molecular weight of the recombinant peptide was confirmed by electrospray mass spectrometry. The recombinant peptide was found to be biologically active in assays involving clone C9 T-cell proliferation, lymph-node cell proliferation, and antibody production. Thus the use of CBD as an affinity tag and the utilization of affordable cellulose matrices offers an attractive method for the production and purification of recombinant peptides. Copyright 1998 Academic Press.

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DN 133:222512  
TI New effective precursors for the formation of episulfides  
AU Abu-Yousef, Imad A.; Harpp, David N.  
CS Department of Chemistry, American University of Sharjah, Sharjah, United Arab Emirates  
SO Sulfur Lett. (2000), 23(3), 131-137  
CODEN: SULED2; ISSN: 0278-6117  
PB Harwood Academic Publishers  
DT Journal  
LA English  
OS CASREACT 133:222512  
RE.CNT 14  
RE  
(3) Abu-Yousef, I; J Org Chem 1997, V62, P8366 CAPLUS  
(4) Abu-Yousef, I; J Org Chem 1998, V63, P8654 CAPLUS  
(5) Abu-Yousef, I; Sulfur Rep 1997, V20, P1 CAPLUS  
(6) Abu-Yousef, I; Tetrahedron Lett 1993, V34, P4289 CAPLUS  
(7) Abu-Yousef, I; Tetrahedron Lett 1994, V35, P7167 CAPLUS  
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AN 1992:48660 CAPLUS  
DN 116:48660  
TI Perthiyl radicals, trisulfide radical ions, and sulfate formation: a combined photolysis and radiolysis study on redox processes with organic di- and trisulfides  
AU Everett, Steven A.; Schoeneich, Christian; Stewart, John H.; Asmus, Klaus Dieter  
CS Dep. Appl. Phys. Sci., Univ. Ulster, Newtownabbey, BT37 OQB, UK  
SO J. Phys. Chem. (1992), 96(1), 306-14  
CODEN: JPCHAX; ISSN: 0022-3654  
DT Journal  
LA English

L3 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2001 ACS  
AN 1983:414099 CAPLUS  
DN 99:14099  
TI High-pressure growth of polycrystalline molybdenum disulfide  
AU Srivastava, S. K.; Avasthi, B. N.; Das, B.; Basu, S.  
CS Dep. Chem., Indian Inst. Technol., Kharagpur, 721 302, India  
SO Mater. Lett. (1983), 1(5-6), 178-80  
CODEN: MLETDJ  
DT Journal  
LA English

L3 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2001 ACS  
AN 1982:562100 CAPLUS  
DN 97:162100  
TI Mechanism of reduction of bis(2-hydroxyethyl) trisulfide by eqq- and

.bul.CO2-. Spectrum and scavenging of RSS.bul. radicals  
AU Wu, Zhennan; Back, Thomas G.; Ahmad, Rizwan; Yamdagni, Raghav; Armstrong,  
David A.  
CS Dep. Chem., Univ. Calgary, Calgary, AB, T2N 1N4, Can.  
SO J. Phys. Chem. (1982), 86(22), 4417-22  
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